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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,118	01/03/2002	Terry J. Logan	10465/45	1036

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KENYON & KENYON
1500 K STREET, N.W., SUITE 700
WASHINGTON, DC 20005

EXAMINER

RINEHART, KENNETH

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 11/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,118

Applicant(s)

LOGAN ET AL.

Examiner

Kenneth B Rinehart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 19,24,25,55-58,62 and 63 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-18,35-51,59-61,64-67 and 72 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 29,33 and 71 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-18, 20-23, 26-54, 59-61, 64-74 drawn to a process/system, classified in class 110, subclass 342.
- II. Claims 19, 55-58, drawn to a mixture, classified in class 44, subclass 269.
- III. Claims 24, 25, 62, 63, drawn to a soil additive/ feed stock, classified in class 71, subclass 14.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process for using the product as claimed can be practiced with another materially different product such as urea.

Inventions I and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case that the process as claimed can be used to make other and materially different product such as ash.

Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different

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functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together as one is a feedstock/soil additive and the other is a mixture and they have different effects such as improving the soil and providing a source of ammonia.

During a telephone conversation with Mr. Meyer on 11/23/02 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-18, 20-23, 26-54, 59-61, 64-74. Affirmation of this election must be made by applicant in replying to this Office action. Claims 19, 24, 25, 55-58, 62, 63 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-9, 20, 73, 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al in view of Rivers et al. Smith et al discloses mixing organic waste (21, 22, fig. 3), one or more coal combustion by products (col. 9, line 48-54), and one or more alkaline

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additives (13, fig. 13) to form an organic waste/coal combustion by products/alkaline additive by product mixture (13, fig. 3) and causing ammonia to be released from said organic waste (col. 12, lines 24-41), introducing said liberated ammonia into a ... burner of a ... burning power plant (201, 36, 17, fig. 3, col. 12, lines 36-39), one or more alkaline additives is selected from the group consisting of lime, calcium hydroxide, limestone cement kiln dust, and lime kiln dust (col. 11, lines 40-43), said mixing further includes mixing lime with the organic waste, coal combustion by products, and one or more alkaline additives (col. 11, lines 40-43), said organic wastes comprises waste selected from the group consisting of sewage sludges, animal manures, pulp and paper waste, fermentation waste, food waste, paper and cardboard, and other industrial organic waste (col. 1, lines 59-67), said coal combustion by products comprise at least one by product selected from the group consisting of fly ash, fluidized bed ash, flue gas desulphurization by products, lime, calcium hydroxide, calcium carbonates, and mixtures thereof (39, fig. 3), the organic waste/coal combustion by products/alkaline additive by product mixture has a PH of at least 9.5 (col. 11, line 18), mixing the organic waste/coal combustion by products/alkaline additive byproduct mixture with coal (91, fig. 3, col. 12, line 6), the coal is pulverized coal (col. 12, lines 5-6), liberating ammonia from organic waste (col. 12, lines 24-30); mixing organic waste (21, 22, fig. 3), one or more coal combustion by products (col. 9, line 48-54), and one or more alkaline additives (13, fig. 13) to form an organic waste/coal combustion by products/alkaline additive by product (col. 12, lines 24-41), feeding the organic waste/coal combustion by products/alkaline additive by product into a ... burner of a ... burning power plant (201, 36, 17, fig. 3, col. 12, lines 36-39). Smith et al discloses applicant's invention substantially as claimed with the exception of coal. Rivers et al teaches coal (col. 4, lines 21-27)

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for the purpose of using existing pulverized coal boilers with resultant fuel cost and capital savings. It would have been obvious to one of ordinary skill in the art to modify Smith et al by including coal as taught by Rivers et al for the purpose of using existing pulverized coal boilers with resultant fuel cost and capital savings.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lissianski et al in view of Smith et al. Lissianski et al discloses a coal burner of a coal burning power plant (col. 5, line 58-67), a coal feed supplying coal to said coal burner, coal (fig. 1). Lissianski et al discloses applicant's invention substantially as claimed with the exception of an ammonia feed to said ... burner comprising ammonia liberated from organic waste upon mixing organic waste, one or more coal combustion by products and one or more alkaline additives. Smith et al teaches an ammonia feed to said ... burner (201, fig. 3) comprising ammonia liberated from organic waste upon mixing organic waste (21, 22, fig. 3), one or more coal combustion by products (col. 9, lines 48-54) and one or more alkaline additives (13, fig. 13) for the purpose of preventing the gas from escaping to the environment. It would have been obvious to one of ordinary skill in the art to modify Lissianski et al by including liberated from organic waste upon mixing organic waste, one or more coal combustion by products and one or more alkaline additives as taught by Smith et al for the purpose of preventing the gas from escaping to the environment.

Claims 52, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lissianski et al in view of Khan. Lissianski et al discloses a, ...coal, coal ... of a coal burning power plant (col. 5, line 58-67). Lissianski et al discloses applicant's invention substantially as claimed with the exception of mixing organic waste, one or more coal combustion by products to form an organic waste coal combustion by products mixture into a ... burner..., a feed of an organic

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waste coal combustion by products mixture to said ... burner, comprising organic waste and one or more coal combustion by products mixed together. Khan teaches mixing organic waste, one or more coal combustion by products to form an organic waste coal combustion by products mixture into a ... burner... (col. 7, lines 40-49), a feed of an organic waste coal combustion by products mixture to said ... burner, comprising organic waste and one or more coal combustion by products mixed together for the purpose of disposing of sludge without contaminating the environment (col. 7, lines 40-49). It would have been obvious to one of ordinary skill in the art to modify Smith by including mixing organic waste, one or more coal combustion by products to form an organic waste coal combustion by products mixture into a ... burner..., a feed of an organic waste coal combustion by products mixture to said ... burner, comprising organic waste and one or more coal combustion by products mixed together for the purpose of disposing of sludge without contaminating the environment (as taught by Khan) ~~for the purpose of disposing of sludge without contaminating the environment~~.

Claims 21, 22, 30-32, 52-54, 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strohmeyer in view of Lissianski et al. Strohmeyer discloses mixing organic waste (col. 3, lines 8-10), one or more coal combustion by products (col. 5, line 23-29), and one or more alkaline additives (col. 3, line 7) to form an organic waste/coal combustion by products/alkaline additive by product with coal (col. 3, lines 8-10, col. 5, lines 23-29, col. 3, lines 7); and feeding the organic waste/coal combustion by products/alkaline additive by product and coal into a coal burner of a coal burning ... (38, 30, fig. 1), a feed of an organic waste (col. 3, lines 8-10)/coal combustion by products (col. 5, line 23-29)/ alkaline additive mixture to said coal burner (col. 3, line 7), comprising organic waste, one or more combustion by products and

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one or more alkaline additives mixed together (38, fig. 1), said feed of an organic waste/ coal combustion by products/alkaline additive mixture further includes coal (col. 3, lines 5-10), (col. 5, line 23-29), mixing organic waste (col. 3, lines 8-10), one or more coal combustion by products (col. 5, line 23-29), to form an organic waste/coal combustion by products mixture (col. 3, lines 8-10, col. 5, lines 23-29, col. 3, lines 7), combining the organic waste/coal combustion by product mixture with coal (col. 3, lines 5-10, col. 5, lines 23-29); and feeding the organic waste/coal combustion by-products mixture and coal into a coal burner of a coal burning ... (38, fig. 1), said organic waste coal combustion by product mixture further comprises one or more non-alkaline additives (col. 3, line 5), a coal burner of a coal burning ... (30, fig. 1), a feed of an organic waste coal combustion by products mixture to said coal burner, comprising organic waste and one or more coal combustion by products mixed together (col. 3, lines 5-10, col. 5, lines 23-29), said feed of an organic waste coal combustion by products mixture further includes coal (col. 3, lines 5-10, col. 5, lines 23-29) . Strohmeyer discloses applicant's invention substantially as claimed with the exception of power plant, pulverized coal. Lissianski et al teaches power plant (col. 5, line 62), pulverized coal (col. 1, line 28) for the purpose of providing a more energy efficient system. It would have been obvious to one of ordinary skill in the art to modify Strohmeyer by including power plant, pulverized coal as taught by Lissianski et al for the purpose of providing a more energy efficient system.

Claims 1, 6, 8-10, 21-23, 26-28, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strohmeyer in view of Smith et al and Lissianski et al. Strohmeyer discloses coal, coal burning (col. 3, line 5), the one or more coal combustion by products include fly ash (col. 5, lines 23-34), mixing the organic waste/coal combustion by product alkaline additive by

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product mixture with coal (col. 3, lines 8-10, col. 5, lines 23-29, col. 3, lines 7), feeding the mixture formed by mixing the by product mixture with coal into said coal burner (38, fig. 1), combining the organic waste coal combustion by products alkaline additive by product with coal (38, fig. 1, col. 3, lines 8-10, col. 5, lines 23-29, col. 3, lines 7), feeding the organic waste coal combustion by products alkaline additive by product and coal into a coal burner of a coal burning ... (col. 3, lines 8-10, col. 5, lines 23-29, col. 3, lines 7), a coal feed supplying coal to said coal burner (37, fig. 1), the coal feed comprises coal and a mixture of organic waste, one or more coal combustion by products and one or more alkaline additives (38, fig. 1, col. 3, lines 8-10, col. 5, lines 23-29, col. 3, lines 7), a coal burner of a coal burning ... (38, 30, fig. 1), a coal feed supplying coal to said coal to said coal burner, which coal feed comprises coal and the mixture of organic waste (col. 3, lines 5-10) one or more coal combustion by products (col. 5, line 23-29) and one or more alkaline additives (col. 3, line 7) . Strohmeyer discloses applicant's invention substantially as claimed with the exception of mixing organic waste, one or more coal combustion by products, and one or more alkaline additives to form an organic waste/coal combustion by products/alkaline additive by product mixture and causing ammonia to be released from said organic waste, introducing said liberated ammonia into a ... burner, power plant, pulverized coal, said mixing further includes liberating ammonia from the organic waste and introducing the ammonia into the ... burner, an ammonia feed to said ... burner comprising ammonia liberated from organic waste upon mixing organic waste, one or more coal combustion by products and one or more alkaline additives, power plant. Smith et al teaches mixing organic waste (21, 22, fig. 3), one or more coal combustion by products (col. 9, line 48-54), and one or more alkaline additives (13, fig. 13) to form an organic waste/coal combustion by

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products/alkaline additive by product mixture (13, fig. 3) and causing ammonia to be released from said organic waste (col. 12, lines 24-41), introducing said liberated ammonia into a ... burner (36, fig. 3), said mixing further includes liberating ammonia from the organic waste and introducing the ammonia into the ... burner (col. 12, lines 24-41, 36, fig. 3), an ammonia feed to said ... burner (201, fig. 3) comprising ammonia liberated from organic waste upon mixing organic waste (21, 22, fig. 3), one or more coal combustion by products (col. 9, lines 48-54) and one or more alkaline additives (col. 12, lines 24-41, 13, 36, fig. 3) for the purpose of preventing the gas from escaping to the environment. It would have been obvious to one of ordinary skill in the art to modify Strohmeyer by including mixing organic waste, one or more coal combustion by products, and one or more alkaline additives to form an organic waste/coal combustion by products/alkaline additive by product mixture and causing ammonia to be released from said organic waste, introducing said liberated ammonia into a ... burner, said mixing further includes liberating ammonia from the organic waste and introducing the ammonia into the ... burner, an ammonia feed to said ... burner comprising ammonia liberated from organic waste upon mixing organic waste, one or more coal combustion by products and one or more alkaline additives as taught by Smith for the purpose of preventing the gas from escaping to the environment.

Strohmeyer in view of Smith et al discloses applicant's invention substantially as claimed with the exception of power plant, pulverized coal. Lissianski et al teaches power plant (col. 5, line 62), pulverized coal (col. 1, line 28) for the purpose of providing a more energy efficient system. It would have been obvious to one of ordinary skill in the art to modify Strohmeyer by including power plant as taught by Lissianski et al for the purpose of providing a more energy efficient system.

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Allowable Subject Matter

Claims 11-18, 35-51, 59-61, 64-67, and 72 are allowed.

Claim 29, 33, and 71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of art with respect to coal gasification/combustion in general: Bruckner et al (4932335), Benson et al (5492645), Clot et al (6168688), Fujimura et al (6063355), Fujimura et al (5980858), Baer et al (5447703).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B Rinehart whose telephone number is 703-308-1722. The examiner can normally be reached on 7:30-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 703-308-1935. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9302 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

KBR

November 26, 2002



Kenneth Rinehart

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Patent Examiner

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